

INSTRUCTION MANUAL

TLV® Steam & Condensate Manifold M4P/M8P/M12P

Thank you for purchasing the TLV® Forged Steel Manifold.

This product has been thoroughly inspected before being shipped from the factory. When the product is delivered, before doing anything else, check the specifications and external appearance to make sure nothing is out of the ordinary. Also be sure to read this manual carefully before use and follow the instructions to be sure of using the product properly.



The TLV® Forged Steel Manifold incorporates piston valves at each station connection. When used as a condensate collection manifold, this product consolidates steam trap locations at lower installation heights, making traps more accessible, easier to install, isolate, test and troubleshoot.

If detailed instructions for special order specifications or options not contained in this manual are required, please contact TLV® for full details.

This instruction manual is intended for use with the model(s) listed above. It is necessary not only for installation, but for subsequent maintenance, disassembly/reassembly and troubleshooting. Please keep it in a safe place for future reference.

If steam traps and valves were supplied with this manifold as part of a package unit, please refer to the separate product manuals for the proper instructions for each product.

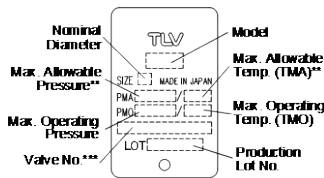
1. Safety Considerations

- CAUTION** Install properly and DO NOT use this product outside the recommended operating pressure, temperature and other specification ranges. Improper use may result in such hazards as damage to the product or malfunctions which may lead to serious accidents. Local regulations may restrict the use of this product to below the conditions quoted.
- CAUTION** Use hoisting equipment for heavy objects (weighing approximately 20 kg (44 lb) or more). Failure to do so may result in back strain or other injury if the object should fall.
- CAUTION** Take measures to prevent people from coming into direct contact with product outlets. Failure to do so may result in burns or other injury from the discharge of fluids.
- CAUTION** When disassembling or removing the product, wait until the internal pressure equals atmospheric pressure and the surface of the product has cooled to room temperature. Disassembling or removing the product when it is hot or under pressure may lead to discharge of fluids, causing burns, other injuries or damage.
- CAUTION** Be sure to use only the recommended components when repairing the product, and NEVER attempt to modify the product in any way. Failure to observe these precautions may result in damage to the product or burns or other injury due to malfunction or the discharge of fluids.
- CAUTION** Do not use excessive force when connecting threaded pipes to the product. Over-tightening may cause breakage leading to fluid discharge, which may cause burns or other injury.
- CAUTION** Use only under conditions in which no freeze-up will occur. Freezing may damage the product, leading to fluid discharge, which may cause burns or other injury.
- CAUTION** Use only under conditions in which no water hammer will occur. The impact of water hammer may damage the product, leading to fluid discharge, which may cause burns or other injury.
- CAUTION** Do not stand on or apply body weight to the handwheel. The handwheel may break, resulting in injury or other accidents.
- CAUTION** Do not carry the product by its handwheel. The handwheel may turn causing the balance to shift and the product to be dropped, resulting in injury or other accidents.
- CAUTION** Installation, inspection, maintenance, repairs, disassembly, and adjustment should be carried out only by trained maintenance personnel.

2. Specifications

Refer to the product nameplate for detailed specifications.

NOTE: Specifications given on the nameplate are for the forged steel manifold only; refer to the nameplates on any attached steam traps or valves for each unit's specifications.

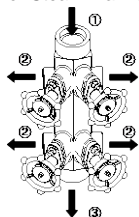


* The size is for the station connections

** PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS)

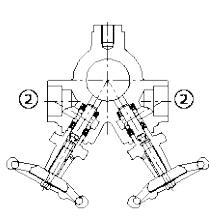
*** Displayed for products with options; omitted when there are no options.

<For Steam Manifolds>



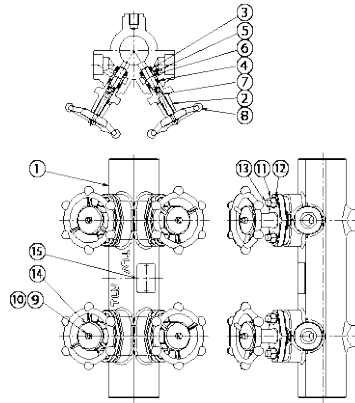
- ①: Steam Inlet
- ②: Station Connection – Steam Outlet
- ③: Drain Connection

<For Condensate Manifolds>



- ①: Condensate Outlet
- ②: Station Connection – Condensate Inlet
- ③: Blowdown Connection

3. Configuration

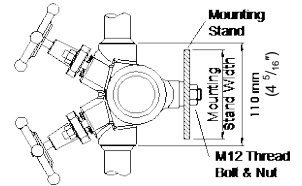


No.	Name
1	Body
2	Valve Bonnet
3	Lower Valve Ring
4	Upper Valve Ring
5	Lantern Bushing
6	Piston
7	Spindle
8	Handwheel
9	Handwheel Nut
10	Washer
11	Bonnet Nut
12	Washer
13	Bonnet Bolt
14	Design Plate
15	Nameplate

Repair parts are not provided. If repairs are required for some reason, consult TLV.

4. Proper Installation

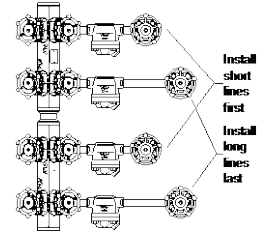
- Before installing the product, blow out the inlet piping to remove any piping scraps, dirt and oil. Close the inlet valve after blowdown.
- Before installation, be sure to remove all protective seals.
- Prepare a mounting stand. The mounting stand should be less than 110mm (4⁵/₁₆") wide (the face to face distance between station connections). If a wider mounting stand is used, it may interfere with any steam trap station connected to the manifold.
- Using M12 threaded bolts, attach the manifold to the mounting stand. Install the manifold vertically with the "TLV" lettering on the nameplate horizontal.



Note: If the manifold is to be mounted in some way other than as described here, be sure to consider and secure sufficient space for the installation, operation and maintenance of required steam traps and valves.

- Complete the installation by installing the required steam traps and valves. For steam applications, install a stop valve at the steam inlet, and a steam trap and stop valve at the drain connection. For condensate applications, install stop valves at the condensate outlet and blowdown connections, and a steam trap station (steam trap and stop valve) at each station connection.

Note for Screwed Connections: There may be clearance problems when installing traps and valves with threaded connections. To prevent any obstructions, such as valve handles contacting products installed on lines above or below, offset each line slightly. Install all short lines first, then longer lines. Offsetting lines is not necessary when installing products with socket welded connections.



- Open the inlet and the outlet valves and verify proper operation.

5. Maintenance

If any leaks are observed through the valve ring or the valve bonnet, tighten the nuts for the valve bonnet using the torque shown in the following table.

Nut (for Valve Bonnet)	
Torque N·m (lbf·ft)	Distance Across Flats mm (in)
5 (4)	13 (1/2)

Note: -If drawings or other special documentation were supplied for the product, any torque given there takes precedence over values shown here. 1 N·m ≈ 10 kg·cm

6. Product Warranty

- Warranty Period: One year following product delivery.
- TLV CO., LTD. warrants this product to the original purchaser to be free from defective materials and workmanship. Under this warranty, the product will be repaired or replaced at our option, without charge for parts or labor.
- This product warranty will not apply to cosmetic defects, nor to any product whose exterior has been damaged or defaced; nor does it apply in the following cases:
 - Malfunctions due to improper installation, use, handling, etc., by other than TLV CO., LTD. authorized service representatives.
 - Malfunctions due to dirt, scale, rust, etc.
 - Malfunctions due to improper disassembly and reassembly, or inadequate inspection and maintenance by other than TLV CO., LTD. authorized service representatives.
 - Malfunctions due to disasters or forces of nature.
 - Accidents or malfunctions due to any other cause beyond the control of TLV CO., LTD.
- Under no circumstances will TLV CO., LTD. be liable for consequential economic loss or damage or consequential damage to property.

Service

For Service or Technical Assistance: Contact your TLV representative or your regional TLV office.

North America:	[1]-704-597-9070	China:	[86]-(0)21-5102-1669
Mexico:	[52]-55-5359-7949	Singapore:	[65]-6747-4600
Argentina:	[54]-(0)11-4760-8401	Malaysia:	[60]-3-8065-2928
United Kingdom:	[44]-(0)1242-227223	Korea:	[82]-(0)31-726-2105
France:	[33]-(0)4-7248-2222	Other South-East Asian Countries:	[65]-6747-4600
Australia:	[61]-(0)3-9873-5610	Other Countries:	[81]-(0)79-427-1818
Germany & Other European Countries:	[49]-(0)7263-9150-0		

TLV CO., LTD.

881 Nagasuna, Noguchi Kakogawa, Hyogo 675-8511 JAPAN

Tel: [81]-(0)79 - 422 - 1122

Fax: [81]-(0)79 - 422 - 0112